



**Product transfer application**  
**Industrial gases** (including LNG)



**KLAW**

**Safe product transfer solutions**

## KLAW industrial gas transfer systems

### KLAW minimizes the risk of industrial gas spillage

**When fitting a KLAW Breakaway Coupling you ensure that everything has been done to eliminate risk and mitigate legal action.**

The KLAW industrial range offers a safe and identifiable parting point within the transfer system and will close down flow in an emergency such as a drive-off or other strain on the transfer system.

The experience and track-record of KLAW therefore enables you to minimize risk to assets, personnel, the environment and reputation and protect against downtime and clean-up costs, litigation and injury.

The KLAW Cryogenic range of couplings are designed for low temperature transfer of Industrial Gases to operating temperatures of -196°C (-320°F).

**The lack of a Breakaway System in the event of a drive-off can be catastrophic.**



**KLAW Breakaway Systems prevent spillage, damage to assets and injury to personnel.**



# Typical applications

## Tanker, railcar and refuelling stations

### Typical systems

Bunkering, Refuelling, Railcar, Road Tanker and Loading Arm systems involved in the transfer of cryogenic industrial gas media.

### Typical media applications

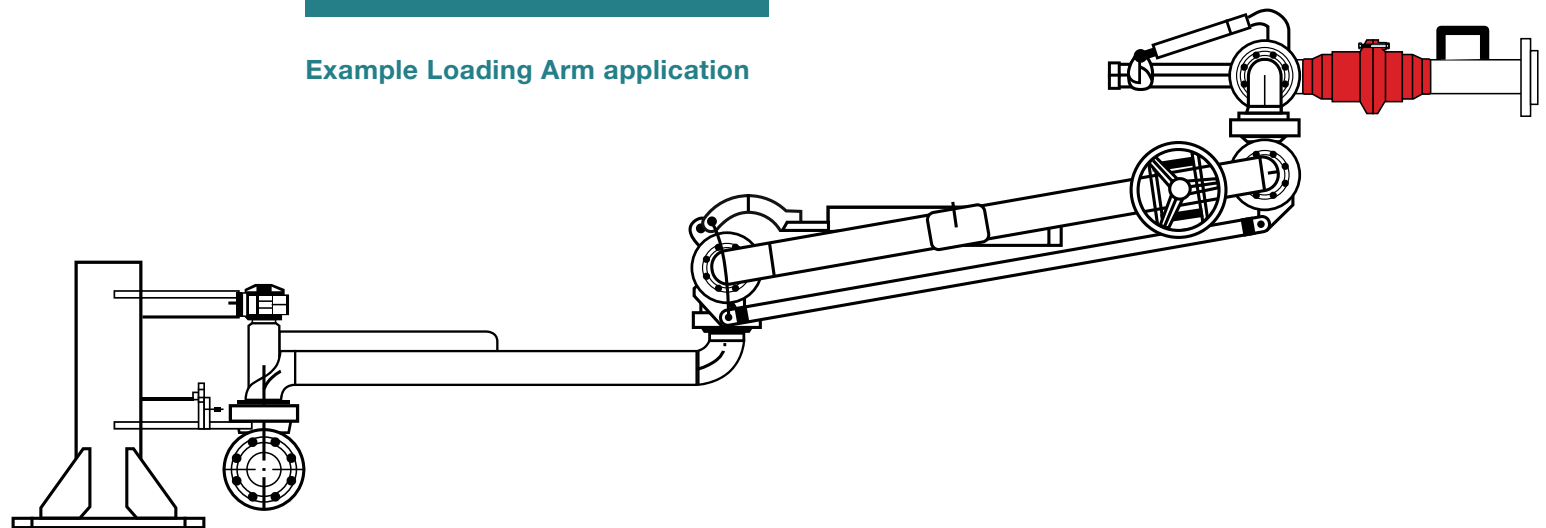
- LNG
- Liquid Nitrogen
- Liquid Oxygen
- Ethylene
- Ethane
- Argon
- CO<sub>2</sub>



### Typical applications

Loading and off-loading in Trailer, Railcar and Refuelling operations

### Example Loading Arm application



## Delivering gas transfer protection all the way down the line

### The KLAW cryogenic range offers:

- 100% closure
- Minimum headloss
- Compact and lightweight design
- Protection of Loading Arm equipment



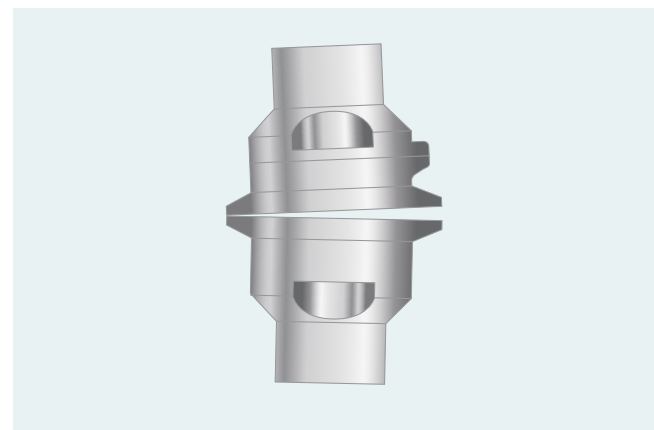
### Avoiding the consequences of partial break

Partial break occurs when a coupling only partially separates. A partial break event provides a situation where spillage is uncontrollable.

The valve mechanism within the KLAW range is designed to avoid the risk of partial break.



**Other Breakaway Couplings can result in uncontrolled spillage in the event of a partial separation.**



**KLAW Breakaway Couplings provide 100% closure even on partial separation.**

# Cryogenic Breakaway Couplings

The KLAW Breakaway Coupling has breakstuds that hold the two halves of the coupling together. Its purpose is to resist external loads and line pressure up to a pre-determined point.

The unit activates when it is subjected to forces higher than the breakload setting.



Sizes: 1/2" to 6"

Threaded / Flanged or Weld End Connections available

**CRYO BREAK**  
THE CRYOGENIC BREAKAWAY COUPLING

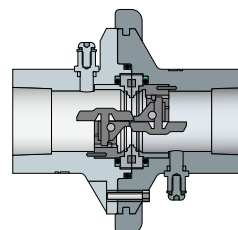


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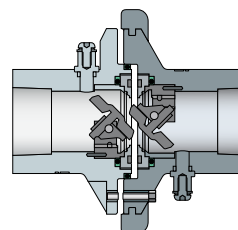


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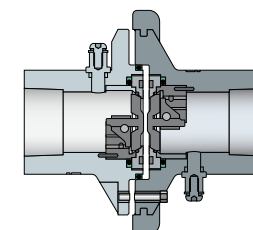
1. Internal flaps are positioned in line with the flow. These keep each other open, offering minimum headloss.



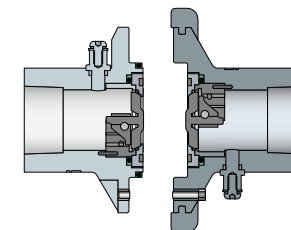
2. As the unit begins to separate, the discs flip through a controlled arc.



3. The discs snap onto their seats, providing 100% shut-off.



4. With the valves in the closed position the coupling now separates.



Conceptual illustrations only. Contact KLAW for technical representations.



## Quick connect couplings for cryogenic transfer

### Cryogenic connect disconnect hose and tank unit coupling

Fast and safe LNG and cryogenic media transfer connections to flanges.

The new CryoDC means KLAW delivers cryogenic media transfer protection all the way down the line.

Sizes: 2", 3", 4" and 6".

# CRYO**DC** **NEW**



## KLAW Breakaway Coupling testing and standards

All KLAW Breakaway Couplings for Cryogenic application are tested to ensure they conform to the highest of industry and safety standards. All couplings are supplied with test certification which is provided at no extra cost.

**Every coupling is both ambient and cryogenically tested.**

### Standards:

PED (Pressure Equipment Directive 97/23/EC)  
and ATEX (directive 94/9/EC)

### Materials

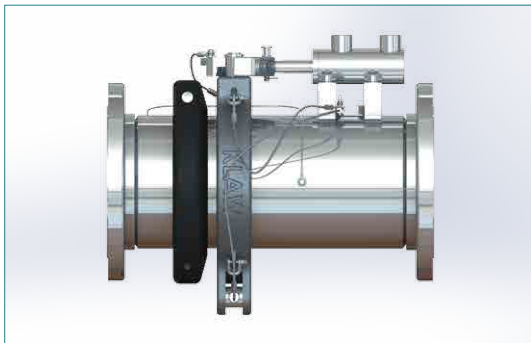
Stainless steel.

Other materials are available on request.



**Fitting a KLAW Breakaway Coupling ensures that you have done everything to protect assets and ensure the safety of personnel and the public.**

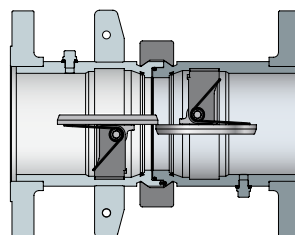
## KLAW Emergency Release Couplings



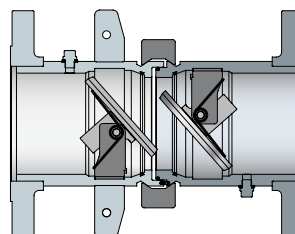
**The KLAW Emergency Release Coupling (ERC) has a Collar Release Mechanism that is activated via a hydraulic system.**

This provides the option for predetermined release of the Emergency Shutdown (ESD) system, rather than being reliant on forces applied through the transfer system.

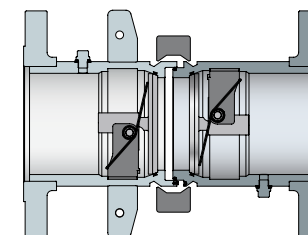
1. Flip-Flap Valve mechanism is in open flow status.



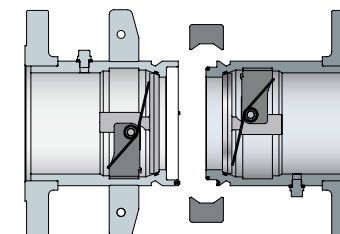
2. Collar Release is activated (via Cable or Hydraulic system).



3. Body seal retains media until the valves close. With the Flip-Flap Valves closed, the separation sequence continues.



4. Collar Release is detached and the coupling is separated.



Conceptual illustrations only. Contact KLAW for technical representations.

**Available in sizes: 2" to 12"**

**Cable, Hydraulic and Dual Action Release options available.**

## The advantages of KLAW transfer safety systems

KLAW designs and supplies a range of systems designed to improve safety and efficiency during the transfer of media.

This enables you to minimize risk to assets, personnel, the environment and reputation and protect against downtime and clean-up costs, litigation, injury, increased insurance and investment costs caused by higher risk.

KLAW offers experience and a track-record for innovation and reliable solutions.

## The KLAW range

Marine Breakaway Couplings  
Industrial Breakaway Couplings  
Full Bore Marine Breakaway Couplings  
Emergency Release Couplings  
Emergency Release Systems  
Cryogenic Emergency Release Systems  
Dry Disconnect Couplings  
Camlocks  
Swivel Joints

### IMPORTANT:

**Specification:** KLAW recommends that all information and data are confirmed with the KLAW Technical Department before specifying, ordering or commissioning.

**Usage:** Please refer to the correct Installation and Maintenance Manual for information or instruction regarding the installation, handling, operation, maintenance and servicing of any product mentioned in this literature. Further advice is available from the KLAW Technical Department.



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